

## **Remarks**

### ***Rejections under 35 U.S.C. §102***

On page 2 of the April 8, 2003 Action, the Office maintains its rejection of claims 1-2 under 35 U.S.C. §102(b) as anticipated by U.S. Pat. No. 3,884,838 to Fleming et al.

The Office alleges that Fleming et al disclose a catalyst composition containing a ruthenium-platinum alloy and tungsten on a mordenite support.

Applicant has amended claim 1 to effectively exclude the presence of tungsten oxide which is a component of Fleming et al.'s catalyst.

New claim 10 recites that the catalyst exhibits the property of selectively oxidizing carbon monoxide in a reformed gas, a property not disclosed by Fleming et al.

New claims 19 and 20 recite specific catalyst compositions not disclosed by Fleming et al.

New claim 21 is directed to a method for removing carbon monoxide from a reformed gas. Fleming et al's describe the conversion of Co and CO<sub>2</sub> to methan with their catalyst.

### ***Obviousness Rejections***

On pages 2 to 4, the Examiner maintains his rejection of claims 1-2 under 35 U.S.C. §103(a) as obvious over JP 7-256112 in view of the "Database of Zeolite Structures" published by the ETH, Zürich.

The Examiner alleges that JP 7-256112 discloses a catalyst composition comprising a zeolite and a metal supported thereon, with the zeolite having an aperture size between 0.4 and 2 nm.

The Examiner acknowledges that the JP 7-256112 does not disclose that (1) the zeolite carrier is mordenite and (2) the amount of the non-platinum metal present in the alloy.

The Examiner alleges that the selection of mordenite would have been obvious in view of the disclosure in "Database of Zeolite Structures" that mordenite has an aperture size of 0.75 nm.

The Examiner further alleges that it would have been obvious to one skilled in the art at the time the invention was made to choose the instantly claimed ranges through process optimization, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

In response, Applicant respectfully submits that a particular parameter must first be recognized as a result effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum workable ranges of the variable might be characterized as routine experimentation.

In this case, JP 7-256112 does not indicate that the ratio of platinum to non-platinum metal in the alloy is a result effective variable for any purpose and certainly not for the purpose of increasing the selectivity of carbon monoxide oxidation. The Office is respectfully referred to MPEP §2144.05 II.B. and In re Antonie, 195 USPQ 6 (CCPA) cited therein. Applicant has also did not find any indication of a suggestion of proportional balancing in JP 7-256112 that was key to the decision in In re Boesch, 205

USPQ 215 (CCPA 1980) on which the Examiner relies.

Also, Applicant's claims recite alloys comprising more than one metal. In contrast, JP 7-256112 discloses that better results are achieved with a monometallic rather than, e.g., a bimetallic catalyst. See esp@cenet abstract and related U.S. Patent No. 6,168,772, which is submitted herewith in an Information Disclosure Statement.

As can be seen from Table 4 of JP 7-256112 the best CO selectivity reported in the context of the catalyst disclosed therein is 63%. As can be seen from Table 2 in the specification, the CO selectivity of the catalyst according to the present invention at 150°C is significantly higher. For the Examiner's convenience, Applicant provides the following Table, the data of which is derived from Table 2 of the application.

Present Invention [CO selectivity]		JP 7-256112 [CO selectivity]
Pt-20%Ru	83.4	63%
Pt-30%Ru	89.7	
Pt-40%Ru	78.6	
Pt-50%Ru	64.0	

Upon request, Applicant would be pleased to submit the above data in the form of a declaration.

On page 4, the Examiner maintains his rejection of claims 1-2 under 35 U.S.C. §103(a) as obvious in view of U.S. Patent No. 6,117,581 to Shelef.

Applicant submitted with the last response a verified English translation of the Japanese priority document of the present application. The Office acknowledged in its

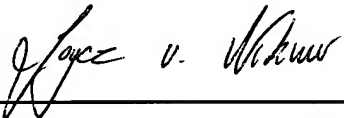
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Advisory Action of July 17, 2003 that this submission removes Shelef et al. as prior art.

**IDS**

Applicant respectfully requests consideration of the attached IDS, which corresponds to the IDS filed with the Applicant's response of 7/8/03.

In the event that this paper is not accompanied by the full fee required for its consideration, the Commissioner is authorized to charge any insufficient or missing fees to RFEM's deposit account No. 02-2135. The Commissioner is also authorized to deposit any overpayment to the same account. A duplicate copy for the financial branch is enclosed.

RESPECTFULLY SUBMITTED,			
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